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10/056,716	01/22/2002	Sashikanth Chandrasekaran	50277-1763	2140

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HICKMAN PALERMO TRUONG & BECKER, LLP  
2055 GATEWAY PLACE  
SUITE 550  
SAN JOSE, CA 95110

EXAMINER

CHEN, TE Y

ART UNIT PAPER NUMBER

2161

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/056,716

Applicant(s)

CHANDRASEKARAN ET AL.

Examiner

Susan Y Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 December 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.  
4a) Of the above claim(s) 8-15 and 23-30 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☐ Claim(s) 1-7 and 16-22 is/are rejected.  
7) ☒ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/5/03, 1/4/05 & 1/31/05.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

***Response to Amendment***

This office action is in response to the amendment filed on 12/22/2004.

Claims 1-30 are pending for examination, claims 8-15 and 23-30 are withdrawn for consideration, claims 1 and 16 have been amended.

***Drawings***

The amended Fig. 3 is objected to under 37 CFR 1.83(a) because based on the description of instant specification, Fig. 3 should be labeled as a prior art, since it discloses existing b-tree protocol used in many distributed lock management systems or database systems [e.g., Page 6, lines 10-12]. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application.

***Claim Objections***

Claim 6 is objected to because of the following informalities:

As to claim 6, the word "may" should be removed from the claim recitation, because it makes the claimed subject matter unclear. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 and 16-21 are rejected as best as the examiner is able to ascertain under 35 U.S.C. 102(b) as being anticipated by Devarakonda et al. (U.S. Patent No. 5,454,108).

As to claim 1, Devarakonda et al. (hereinafter referred as Devarakonda ) discloses a method of handling lock contention [e.g., Fig(s). 1-3], comprising:

1) a first requester transmitting to a lock management system a first request for a particular lock on a resource, wherein, the lock management system manages locks on resources that is granted to a plurality of process that accessing the resource [e.g., col. 2, lines 1-4; lines 42-46];

2) determining that the first request cannot be honored because of a blocking condition [e.g., the unit 910, Fig. 9], if response to determining that the first request cannot be honored: creating first data that indicates the blocking condition [e.g., the unit 912, Fig. 9 and associated texts] and after creating the first data, storing the first data as a new item in the store [e.g., the unit 904, Fig. 9 and associated texts] and transmitting

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from the lock management system a message that indicates the first request to lock a resource is denied [e.g., Fig. 9 and associated texts].

3) the requester receives a message from the lock management system wherein the message includes the first data and based on the first data, the first requester transmitting a second request for notification that indicates when the clocking condition should no longer cause denial of a request for a lock on the resource [e.g., the steps 914-916, Fig. 9 and associated texts; col. 3, lines 53 – col. 4, line 59].

As to claim 2, except all the features recited in claim 1, Devarakonda further discloses no process of the plurality of processes holds a lock issued by the lock management system for the resource [e.g., col. 2, lines 44-46].

As to claims 3-5, except all the features recited in claim 1, Devarakonda further discloses the first requester receiving a notification and in response to receiving the notification the first requester transmitting another request to the block managements system for a particular lock on the resource via the blocking condition and a second data [e.g., col. 3, lines 53 – col. 4, lines 3, Fig. 7, and associated texts].

As to claim 6, except all the features recited in claim 1, Devarakonda further discloses:

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1) a second process [e.g., the lock granularity determination block 910, Fig. 9] of the plurality of processes is performing an operation that causes the blocking condition [e.g., col. 4, lines 4-13];

2) the first data identifies another resource locked by the second process which should no longer cause denial of a request of the locked resource [e.g., the Change-Token control message, col. 4, lines 1-3; Fig. 5 and associated texts];

3) wherein the step of transmitting the second request includes transmitting a request for the lock on the other resource [e.g., Fig. 7 and associated texts].

As to claims 16-21, these claims recited the same limitations as claims 1-6 in form of computer-readable medium, hence are rejected for the same reason.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Devarakonda et al. (U.S. Patent No. 5,454,108) as applied to claims 1 and 16 above, and further in view of Hart (U.S. Patent No. 5,285,528).

As to claim 7, Devarakonda further discloses the claimed limitation that the first requester is a process of the plurality of processes [e.g., the LLM 114(1) –114(3), Fig. 1].

Devarakonda fails to teach : 1) the resource is a data block indexed by a b-tree; 2) the second process of the plurality of processes is performing a block split operation on the data block.

However, Hart discloses a lock management system comprising: 1) resources as data blocks indexed by a b-tree [e.g., Abstract, col. 6, lines 46-51; Fig. 2 and associated texts];

2) the second process of the plurality of processes is performing a block split operation on the data block [e.g., Fig. 3 and associated texts].

Therefore, with the teachings of Devarakonda and Hart in front of him/her, it would have been obvious for an ordinary skilled artisan at the time the invention was made to be motivated to modify Devarakonda's system with Hart's teachings, because by doing so, the combined system would be resolve the problems of overlapping requests via the dynamically decomposing requests into non-overlapping data segments which are then granted automatically such that a more fast searching for potential deadlocks is accomplished via the binary tree structure [see, Hart: Abstract, lines 14-20].

As to claim 22, this claim recited the same limitations as claim 7 in form of computer-readable medium, hence is rejected for the same reason.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan Y Chen whose telephone number is 571-272-4016. The examiner can normally be reached on Monday - Friday from 7:00-4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 571-272-4023. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Susan Y Chen  
Examiner  
Art Unit 2161

March 22, 2005



**UYEN LE**  
**PRIMARY EXAMINER**